# GEOGRAPHIC NEWS BULLETIN

Prepared Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)
General Headquarters, Washington, D. C.

for

DEPARTMENT OF THE INTERIOR
Bureau of Education

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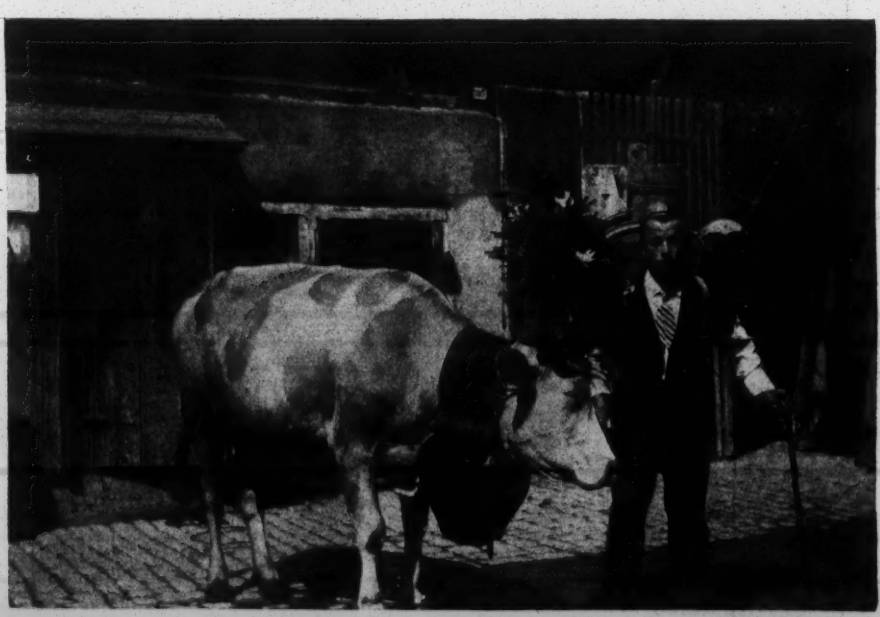

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IN SWITZERLAND IT FREQUENTLY IS THE COW WHICH KEEPS THE WOLF FROM THE DOOR (See Bulletin No. 2)

The picture shows the leading cow, with antique bell, leaving for the Alps in spring. The cowbells, which are worn by all cattle, while pasturing in the Alps, assist the cowherds in preventing the cattle from straying. These cowherds form a distinct class, who do not own the cattle they tend. The amount of milk given each day is entered in a book. The milk is made into butter or cheese, the cowherd and the cheesemaker having a right to a certain proportion of the milk for their own use. At the end of the season the proceeds from each cow are turned over to the owner, and the herder receives a share, together with a small sum for each cow tended.

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## The Geography of the Air

IN his spectacular flight establishing a new aviation altitude record Major Rudolph W. Schroeder found trade winds of 200 miles an hour velocity far above the clouds, press dispatches state. The Dayton, Ohio, test pilot merely reported a new phenomenon resulting from a study of the geography of the air, stimulated by aerial travel.

"While the chemistry and physics of the atmosphere are understood, the geography of the air is still practically unknown," writes Alexander McAdie in a communication to the National Geographic Society.

"We are aware that there are well-marked areas, zones, and levels in this inverted bowl; and, though we may not see them, there are mighty rivers, far surpassing any of the rivers of earth in volume and speed, rushing on for miles and miles, flowing vertically as well as horizontally. There are vast calm areas and stagnant pools; also choppy seas and regions of great turbulence.

### Layers of Air Must Be Explored

"We are learning today that there are various layers in the air, which must be explored and studied before airships can travel in safety. In flying, man will use only the lower strata, the cloud levels. Above all clouds are far-stretching heights, which, too, must be explored, not by plane and dirigible, but by the sounding balloon of the aerographer.

"One might say offhand that there could be no geography of the air; for there are no continents, oceans, or visible geographical features in this 'inverted bowl' which we call the sky. Do we not look clear through the atmosphere up into the heavens and, except for passing clouds, do we not know that there is nothing to be seen?

"Job spoke of the 'bottles' of heaven, and St. Augustine and others thought there were windows in heaven, and as these were opened or closed, so the rain began and ended. But that was long ago. Even as late as the middle of the eighteenth century the chemical nature of air was not known.

### When Mountain Peaks Would Over-Top the Air

"If the density of the atmosphere remained constant, it could all be compressed into a layer about five miles thick. In that case the highest mountain peaks would stand out in space piercing the so-called homogeneous atmosphere. But the density decreases with elevation, and when the aviator reaches an elevation of 10,000 meters he is in a medium which is only about one-third as dense as at the ground. There are no clouds above this level.

"The greatest discovery yet made in exploring the air is that the atmosphere consists of two great layers, the lower extending from sea-level up to 10,000 meters, in which there is a steady fall of temperature with elevation.



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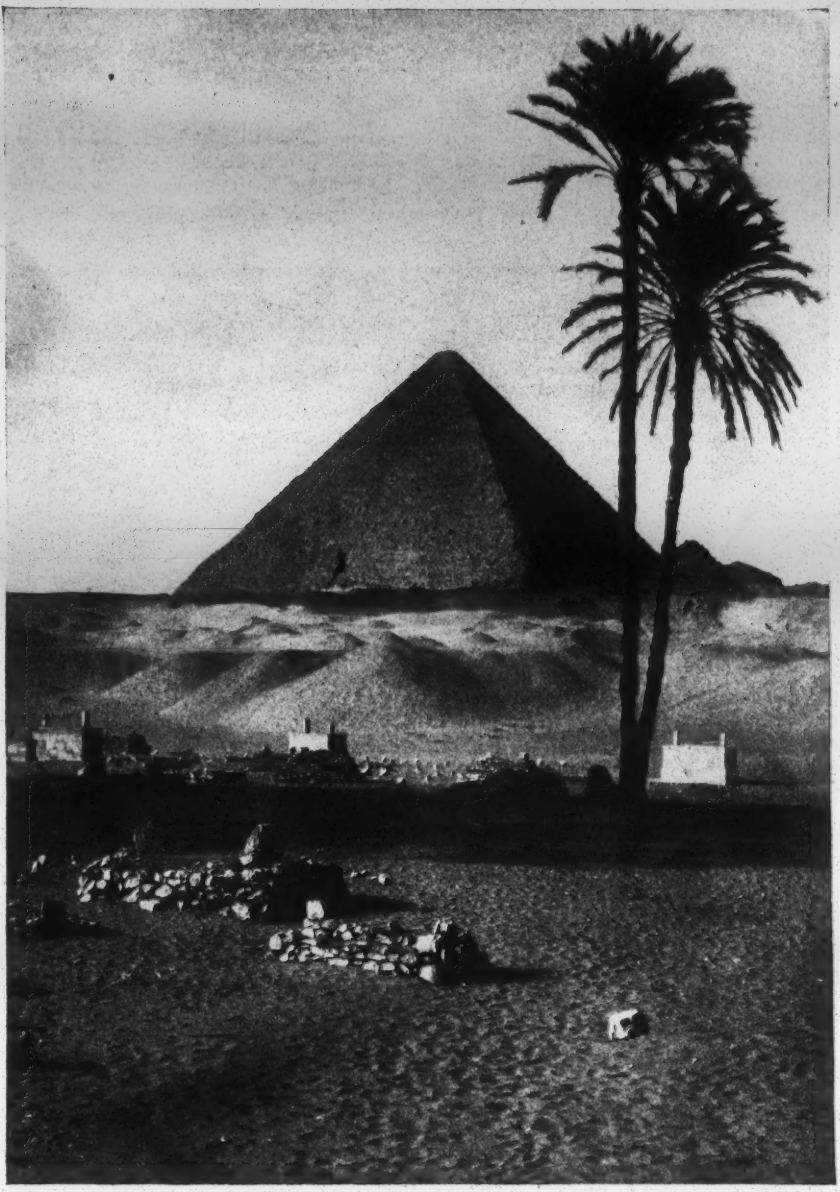

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FORTY CENTURIES LOOK DOWN UPON A LAND OF ALTERNATE STARVATION AND PLENTY (See Bulletin No. 2)

Since the beginning of recorded time Egypt has been a land of plenty when the Nile has overflowed in its proper season; but when the waters have failed to cover the great valley, instead of being the granary of the Near East, this country of the ancient Pharoahs has been a region of direst suffering.

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## Famous Famines of History

"GIVE us bread" is the despairing appeal which resounds from many lands. The cry of hunger is a world-old story, according to Ralph A. Graves, who writes to the National Geographic Society concerning fearful famines of the past as follows:

"Among the earliest authentic records of history is the famous 'stele of famine,' recently discovered carved on a tomb of granite on the island of Sahal, in the first cataract of the Nile. Egyptologists differ as to the exact antiquity, but there is evidence to prove that it was chiseled in the time of Tcheser (or Tosorthrus), who held sway over Egypt nearly two thousand years before the time of Abraham.

"A period greater than that which stretches between the Crucifixion and the present day elapsed after the famine of Tcheser's reign before Joseph arrived to hold sway over this same land of Egypt. As the chief administrator for one of the Hyksos Pharaohs, he prepared for seven lean years which were to drive his brothers and his aged father, Jacob, out of Canaan, down into the valley of the Nile in search of corn.

### Details of Famine in Biblical Narrative

"While the suffering which accompanied this famine was perhaps in no degree comparable to the devastation wrought by the failure of crops in subsequent periods of the world's history, no other has a stronger hold upon the imagination of western civilization, for the details of the dearth are set forth in Biblical records of engrossing interest.

"One of the earliest chiefs of systematic famine relief work was Augustus Caesar, who was at war with the Parthians when summoned back to Rome by the disaster of 23 B. C., when the Tiber overflowed, causing widespread suffering.

"The starving plebeians proclaimed him dictator and urged him to assume control of the corn supply, which he did with exceptional skill and industry. He sent ships to many quarters of the Mediterranean to collect corn, and placed his grandson, Tiberius, in charge of the work of unloading the grain at Ostia and transporting it to the capital, all of which was done with great dispatch.

"From the time of Augustus, throughout the days of the empire, Rome seldom suffered from famine—a striking contrast to the frequency of this affliction in the days of the infant republic.

### Famine, Earthquakes, and Volcanic Eruptions

"Of course, there were some exceptions to this general rule. There was, for example, that terrible period of suffering from 79 to 88 A. D., when the Roman world seemed to be shaken to its physical foundations. In addition



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This is called the troposphere. Above this there is no fall, and up to 20,000 meters a slight rise. The upper layer is known as the stratosphere.

"It is actually possible today for an airplane to rise from the ground to the bottom of the stratosphere, say about six miles in one hour. If we want to explore somewhat higher, say twenty miles, we install light instruments on a sounding balloon.

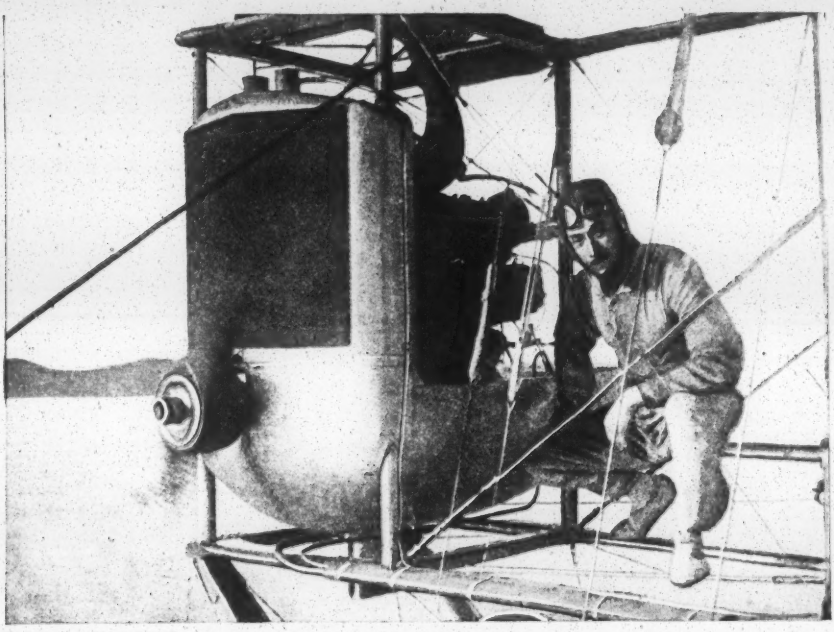
### Sailing an Airship Against the Wind

"The intrepid aviator who tries to force his way at high speed against an adverse wind meets only with increasing resistance. But when the wind favors, then the winged airman spurns the slow fellow creeping on wheels below. With accelerated speed he passes over moor, mountain, or sea; and, if need be, vaults over the clouds.

"If the captain of the winged ship is not content with this speed, he has only to climb to upper levels, where the flow of the air increases to 30 and even 40 meters per second, and in this stream he would move along with a speed relative to the earth of 200 miles an hour.

"These are not extreme values. In a stiff northwester which the writer experienced some years back, the wind blew for 72 consecutive hours 7,565,000 meters, which is nearly 30 meters per second. This is equivalent to going 4,700 miles in three days, or twice the distance from Labrador to Ireland. The highest speed of the wind for any single hour was 164,000 meters, 102 miles. For a period of about fifteen minutes the rate was 120 miles an hour."

Bulletin No. 1, April 26, 1920.



A MECHANIC REPAIRING ONE MOTOR WHILE THE FRENCH AIRSHIP PROCEEDS UNDER THE POWER OF ITS TWIN MOTOR ON THE OPPOSITE SIDE

Note the slight blur in the photograph at the end of the shaft at the left, indicating that the propeller blade is revolving rapidly.

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## Menelek: Who Ruled by Telephone and Sword

(This is the fifth of a series of bulletins on the places and peoples of Africa)

IN all the vast continent of Africa only two nations today can lay claim to independence and one of these, Liberia (see Bulletin No. 2, April 19, 1920) was colonized by American freedmen who implanted new world ideals in old world territory.

The other free nation of Africa is Abyssinia—the Ethiopia of Bible times—which recently sent a mission to visit the United States.

The strangely old vies with the strangely new in Abyssinia. One may talk on a long distance telephone or hear music of the shawn players exactly like that of the year when Jericho fell.

This ever-present contrast is brought out by Oscar T. Crosby, who visited the country about twenty years ago. Then the famous Emperor Menelek, whose daughter now is on the throne, was the country's picturesque ruler. He was overthrown in 1916, because of disputes arising from World War issues. Mr. Crosby writes:

"Menelek was emperor of the Abyssinians by virtue of having conquered a great many difficulties, most of which yielded only to the sword or rifle.

### Father Traced Lineage to Solomon

"Menelek's father was of a kingly family that professes to trace its ancestry to a union between Solomon and the Queen of Sheba. Our accepted authorities in respect to Solomon do not mention this particular amour, but that may have been merely overlooked by time.

"Following the well-established custom, I had with me a few gifts to present to His Majesty, who had sent me goats, bread and tej. Two large volumes, with illustrations of scenes of our own country, of its cities, mountains, water-falls, etc., I offered in the hope of making known the land of the free. Through the very excellent interpretation of a young Abyssinian attached to the British agency, I endeavored to explain the geographical relations of the United States to the rest of the world, but I am quite sure that I did not make a brilliant success. The difference in time between New York, which I mentioned as being our biggest city, and Addis Abeba seemed to interest His Majesty very much.

"Menelek seemed to have some appreciation of the magnitude of the Brooklyn Bridge and of the Capitol, yet the absence in his own language of any defined measure of distance left me doubtful as to whether, in spite of his unceasing efforts to understand things European, he was really able to mentally interpret such great dimensions. He never saw a house larger than his own, unless possibly the neglected ruins of a considerable building erected by the Portuguese about 300 years ago in Gondar, once Abyssinia's capital.



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to the devastating drought and famine which swept over the Italian peninsula, during which 10,000 citizens are said to have died in one day at Rome, there followed the shock of earthquakes and the cataclysmic eruption of volcanoes. Herculaneum and Pompeii were overwhelmed with volcanic ash and lava at this time, and Syria and Africa were blighted by pestilence and famine.

"Probably in no other country in the world has a people been brought to such a low ebb of morality or become so completely lost to all semblance of rational humanity as in the series of famines which swept over Egypt during the tenth, eleventh, and twelfth centuries, under Mohammedan rule.

"A low Nile in 967 A. D., resulted in a famine the following year, which swept away 600,000 people in the vicinity of the city of Fustat. G'awhar, a Mohammedan Joseph, founded a new city (the Cairo of today) a short distance from the stricken town and immediately organized relief measures.

### Ordered Profiteers To Be Flogged

"The Caliph Mo'izz lent every assistance to his lieutenant, sending many ships laden with grain; but the price of bread still remained high, and G'awhar, being a food controller who had no patience with persuasive methods, ordered his soldiers to seize all the millers and grain dealers and flog them in the public market place. The administrator then established central grain depots and corn was sold throughout the two years of the famine under the eyes of a government inspector.

"The story of famines in England has been a gloomy one from earliest times. At the beginning of the eighth century a dearth, which extended to Ireland, drove men to cannibalism. It was not until the reign of Aethelred the Unready, however, that 'such a famine prevailed as no man can remember,' from 1005 to 1016.

"While backward seasons were contributing factors, the responsibility for the two great famines of Henry III's reign is to be laid at the door of the government itself. In the first of these (1235) 20,000 persons are said to have died in London alone. The suffering in 1257-1259 was even worse, for the whole kingdom had been drained of its coinage by the taxes which the king had levied to pay German troops and to buy electoral votes for his brother, the Earl of Cornwall, who was a candidate for the imperial crown of the Holy Roman Empire.

### Black Death Took Tremendous Toll

"With the exception of the present world war, perhaps no other calamity that ever befell the human race can be compared with that of the Black Death and the accompanying famine, which afflicted all western civilization during the middle decade of the fourteenth century. Its toll has been variously estimated at from one-fourth to three-fourths of the entire population of Europe. Certainly it was not less than 20,000,000 people.

"France suffered greatly from famine and pestilence during the Crusades, but like the other nations which participated in the eight attempts to wrest the Holy Land from the Mohammedans, the most spectacular instances of privation occurred among her armies in Palestine and Egypt rather than among the people at home. During the first crusade, plague, supplemented by famine, destroyed 100,000 men, women, and children between September and December of the year 1097.

"Ireland has been a land of many woes, and not the least of these have been the famines which from time to time have taken such heavy toll of the island's manhood. As early as 963-964, an intolerable famine visited the country, and parents are said to have sold their children in order to get money with which to buy food. On at least three occasions the peasantry has been driven to cannibalism."

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## Louvain: Where Americans May Erect Memorial Library

AMERICAN educators have launched a movement to raise funds to rebuild the famous library of the University of Louvain, destroyed by the German invaders early in the war.

The city of Louvain has been called the "Oxford of the low countries." Not only the Univeristy of Louvain, but the city, is an object lesson in the wanton destruction of the German army. Early in 1915 a group of university professors of other countries drew up a petition expressing "strong indignation and abhorrence at the gratuitous destruction of ancient buildings that has marked the invasion of Belgium and France by the German army" and protesting "in the strongest terms against the continuance of so barbarous and reckless a policy."

To this a group of German university professors, among them Gerhart Hauptmann, Max Reinhardt and Rudolph Eucken, replied that it was not true that their troops had treated Belgium brutally but that, anyway, "we must decidedly refuse to buy a German defeat at the cost of saving a work of art."

### City's Chief Product Was Theology

If Louvain has contributed little to scientific achievement it had a tremendous effect upon philosophic and religious thought. It has been said that the city's chief product was theology. But Germany's contempt for that kind of culture is reflected unconsciously in Baedeker's guidebook of 1910, which describes it as "a dull place with 42,200 inhabitants."

Thus the German guide casually dismisses the cradle of Belgium independence, an early home of the European weaving industry, and a treasure house of marvelous art works. In one of his most famous pastorals, Cardinal Mercier, recently a visitor in the United States, describes the havoc wrought in Louvain thus:

"In this dear city of Louvain, perpetually in my thoughts, the magnificent Church of St. Peter will never recover its former splendor. The ancient College of St. Ives, the art schools, the consular and commercial schools of the university, the old markets, our rich library with its collections, its unique and unpublished manuscripts, its archives, its gallery of great portraits of illustrious rectors, chancellors, professors dating from the time of its foundation, which preserved for masters and students alike a noble tradition, and were an incitement in their studies, all this accumulation of intellectual, of historic, and of artistic riches, the fruit of the labors of five centuries—all is in dust."

### University Founded Before America's Discovery

The library referred to contained some 70,000 volumes and about 500 manuscripts, and was attached to the university founded in 1426, by John IV,



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## Royal Residence Built of Rails

"As the Abyssinian is unable to make anything save the round hut, the royal residence was built by East Indian carpenters of rails wottled together and more or less heavily covered with mud, the roof being straw and mud thatch. This palace of Gebi might pass for a fairly comfortable country house, shabby for want of paint. Nor has Menelek ever seen a boat, save the sections of one of poor Marchand's little flotilla lying covered up in front of the Gebi hundreds of miles from any navigable water.

"The Emperor was clad in modest, even severe, garb, the chief vestment being a black-silk burnous. He wore stockings, but no shoes. I tightly drawn turban covered what was said to be a well-developed baldness. Menelek was a hard-working ruler, rising at three or four o'clock in the morning to receive reports that came in by mule courier from various sections of his empire and to dictate responses.

"He is said to have been unable to write, and perhaps would have considered it undignified to use the art had he possessed it. Till nine o'clock in the morning he was busy with his dispatches, and, it may surprise Americans to know, conducted business with Harar, his most important town, about 200 miles away, by a telephone.

## Had to Wear Dress Suit at 9 A. M.

"After nine o'clock Menelek was ready to receive those of his subjects, great or small, who claimed access to him, and also the occasional European who traveled to this strange mud-hut capital. He had learned that there are some customs appropriate to ceremonial occasions, and out of respect to this knowledge I had been advised by Sir Rennell Rodd to take a dress suit for presentation to the court, and this I donned at nine in the morning and in it rode the mile and a half or two miles separating the British compound from the Gebi.

"When these visits were completed Menelek gave much detailed attention to the buildings and the meager workshops which his East Indian employes set up for him.

"His capital city contained huts, large and small, which might lodge a population of about ten thousand. A considerable part of this city was still of canvas."

Bulletin No. 3, April 26, 1920.

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## Why We Are Concerned About Oil

WHY are we worried about oil?

Our future oil supply is a question which is troubling captains of industry and scientists, yet the reasons for this concern are not generally understood by the average citizen. George Otis Smith, director of the U. S. Geological Survey, explains, in an article in the National Geographical Magazine::

"In the course of the centuries the raw-material issue changes. In the long-bow epoch of England's military strength the conservationist feared a depletion of the yew wood which might give the Teuton, backed up by his larger forests, an obvious advantage in light ordnance. Later, when Great Britain's naval power depended upon her wooden ships of war, the anxious naval chief foresaw a possible shortage of the oak which made the walls that stood between England and her enemies.

### No Adequate Substitutes for Some Raw Materials

"Today those who plan for the future prosperity of their nation realize the extent to which other raw materials are essential to the general well-being, and for some of these we can see no adequate substitutes.

"Foremost among these most useful and least abundant, if not, indeed, irreplaceable, commodities stands mineral oil, or petroleum, and not only the conservative Briton, but the most optimistic American, may well ask himself, where will my children and children's children get the oil that they may need in ever-increasing amounts?

"But while the United States has contributed far more than half (61 per cent) of the oil that the world has used for nearly 60 years, we have already reached the point where we are consuming more oil than we produce. Is this position of the world's greatest user of petroleum as safe as it is spectacular?

"We are the world's greatest consumers of petroleum; but, impressive as are the 1918 figures of consumption—413,077,113 barrels—no mind can easily grasp the idea of that quantity. Truly it is a flood of oil; for, if spread over the 60 square miles of the District of Columbia, these 413 million barrels would cover the area to a depth of nearly a foot and a half.

### Now Have 30,000 Miles of Pipe Lines

"Beginning with four miles of iron pipe laid down in western Pennsylvania at the close of the Civil War, this system now embraces a huge network of buried pipes from four to eight inches in diameter, trunk lines and laterals, aggregating nearly 30,000 miles.

"When most of us were in school, 'oil' meant kerosene, and gasoline or benzine was something to be bought in a bottle at the drug-store or the paint shop.

"Today oil has become the premier motive power, not only on land and sea, but even in the heavens above and the depths below—truly the best servant of Mars and Mercury.



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scapegrace husband of Jacqueline. Before the war the university had 2,000 students; but at its heyday, in the 16th century, its enrollment exceeded 6,000.

The city of Louvain ever will be remembered as the scene of the granting to the Belgian people by Duke Wenceslaus of the "joyous entry," and the university will be associated with that charter's preservation, more than four centuries later, when Kaiser Joseph, the "crowned anarchist" of Austria, tried to deprive Belgians of their ancient rights.

The circumstances of that resistance form one more bond of union between Belgium and the United States of America, for it took place just ten years after the Declaration of Independence was signed, an act which left a deep impress upon the Belgians.

### Tried to Abolish Holland's Frontier Defenses

It will be recalled that Emperor Joseph, brother of Marie Antoinette, had tried to abolish Holland's frontier forts. He won a temporary victory because Holland at that time was embroiled with Great Britain over the former's recognition of the United States of America.

Next he turned to Belgium with a project for reforming the church, but the Belgians were determined that such reformation should not be imposed from without. When the Belgians resisted he declared the constitution annulled, sent an armed force into the country, and was met with a declaration that he no longer was Duke of Brabant, and that Belgians henceforth would be an independent people to be known as the United States of Belgium.

Though the Belgian United States was short lived, largely because the great powers of Europe declined to set a precedent by recognizing it, and encouraged Joseph's successor in reconquering it, the seed of independence thus planted by the historic university bloomed again a half century later, and revealed itself gloriously in 1914.

Bulletin No. 4, April 26, 1920.

CHINESE EDIBLE BIRDS' NESTS ARE WORTH THIRTY DOLLARS A POUND
(See Bulletin No. 2)

A visitor in China is struck by two things, the narrow margin of livelihood, which drives the people to strange foods and to conservation to an extent unknown by us, and, second, to the areas which have been deforestated. These facts are related, for the wastage of forests has resulted in the floods which are causes of frequent famines in various regions of China.

"Marshal Foch is quoted as saying that 'a drop of gasoline was worth in war a drop of blood.'

### Variety of Uses Constantly Increases

"The number and variety of uses of petroleum and its products are continually increasing, but even more striking is our increased dependence upon a few of the products of the oil refinery, notably gasoline, kerosene, the many types of lubricating oils, and fuel oil.

"There are said to be 300 or more products of petroleum, each with its own use. Some of these products serve merely our convenience, such as the artificial 'vanilla' flavoring of the cover of paraffine on the jar of jelly or marmalade; others were found during the war period to be absolutely essential to industry on a large scale—for example, the heavy oil is used in tempering steel plates.

"It is when we think of the marvelous growth of the automotive industry that we realize a future demand for lubrication that staggers even the prophetic statistician. With more than six million pleasure automobiles operated in the United States alone, we have an annual consumption estimated, by the officials of the foremost company manufacturing high-grade lubricants, at 120 million gallons of lubricating oil, where twenty years ago the demand for this purpose was practically nothing."

Bulletin No. 5, April 26, 1920.

A FAIR "FISHERMAN": WASHINGTON STATE

Of all the curious quirks of popular interest engendered by the war perhaps the most surprising is the unprecedented interest in fish. Yet there are two reasons for this. The world is hungry. With starving nations calling for meat and grain, which are not to be had, is it to be wondered at that men should give thought to fish, which are to be had for the catching? Furthermore the submarine has given men access to the ocean's depths, and henceforth the ocean's content, as well as water routes, will command the interest of mankind.

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